



## *Nuclear Explosives Safety Competency 1.2*

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**Competency 1.2** Nuclear explosives safety personnel shall demonstrate a working level knowledge of the radiological, equipment, and personnel hazards associated with nuclear explosives/weapons.

### **1. SUPPORTING KNOWLEDGE AND/OR SKILLS**

- a. Discuss the radiological characteristics and related hazards to personnel and equipment from the following materials used in nuclear explosives/weapons:
  - Uranium
  - Plutonium
  - Tritium
- b. Discuss the general quantity and configuration of the materials used in nuclear explosives/weapons that present a potential radiological hazard to personnel and equipment.
- c. Describe how As-Low-As-Reasonably-Achievable (ALARA) considerations are incorporated into the procedures for the handling and storage of nuclear explosives/weapons.
- d. Identify the hazards to personnel and equipment from each of the following features of nuclear explosive/weapon design:
  - Spin rockets
  - Retarding devices
  - Preflight controllers
  - Boosting device
- e. Describe toxic materials typically found in nuclear explosives and weapons, the hazards associated with them, and the safety precautions that should be taken.
- f. Describe the physical effects of a high explosive detonation and a nuclear detonation in terms of:
  - Blast
  - Radiation
  - Thermal



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### **2. SUMMARY**

Due to the sensitive nature of the material contained in this competency and the accompanying supporting knowledge and/or skills, a summary cannot be developed for general use. If you have a need to know this information, you will be briefed by the appropriate personnel.